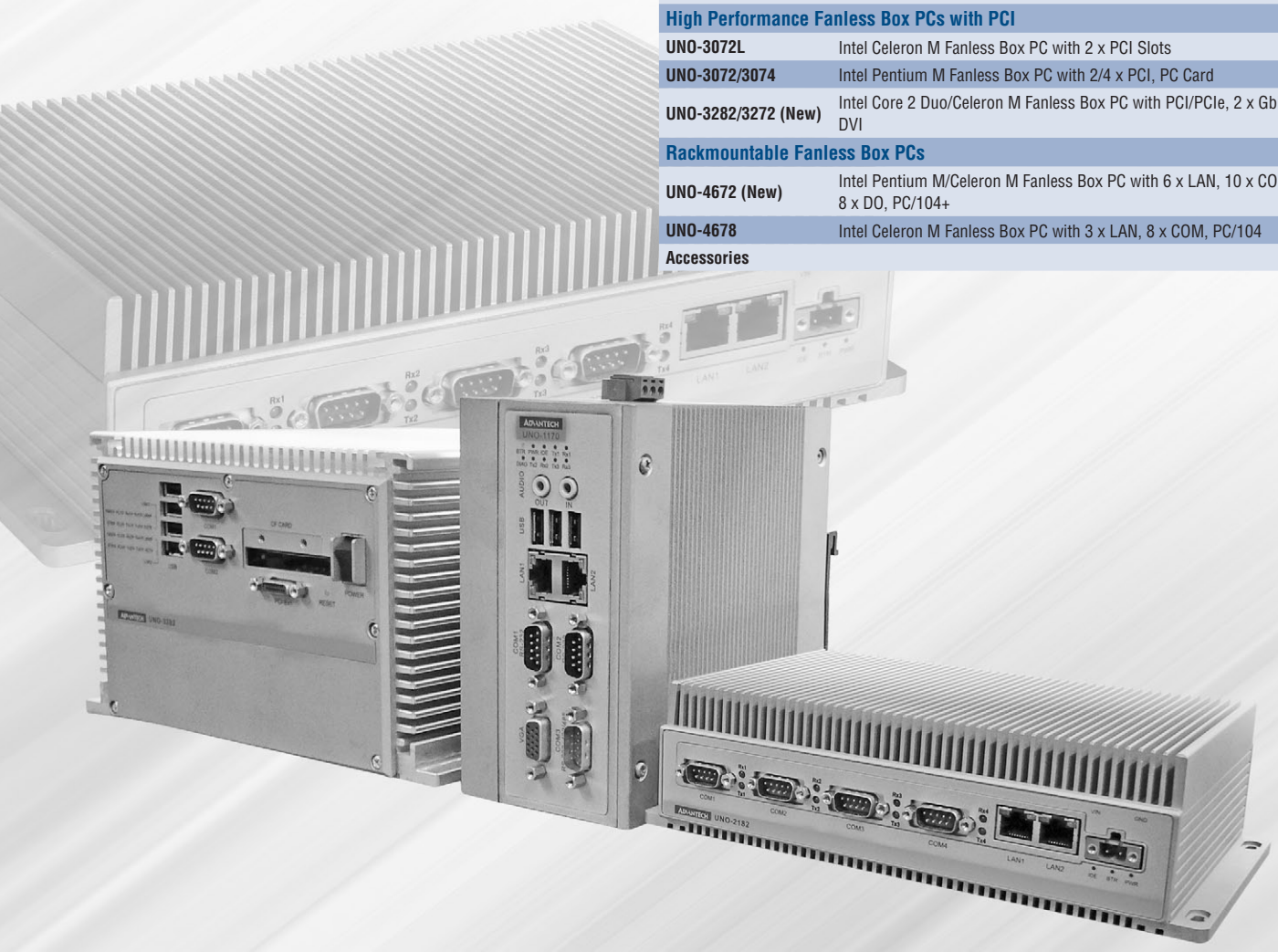
5

Fanless Box PCs

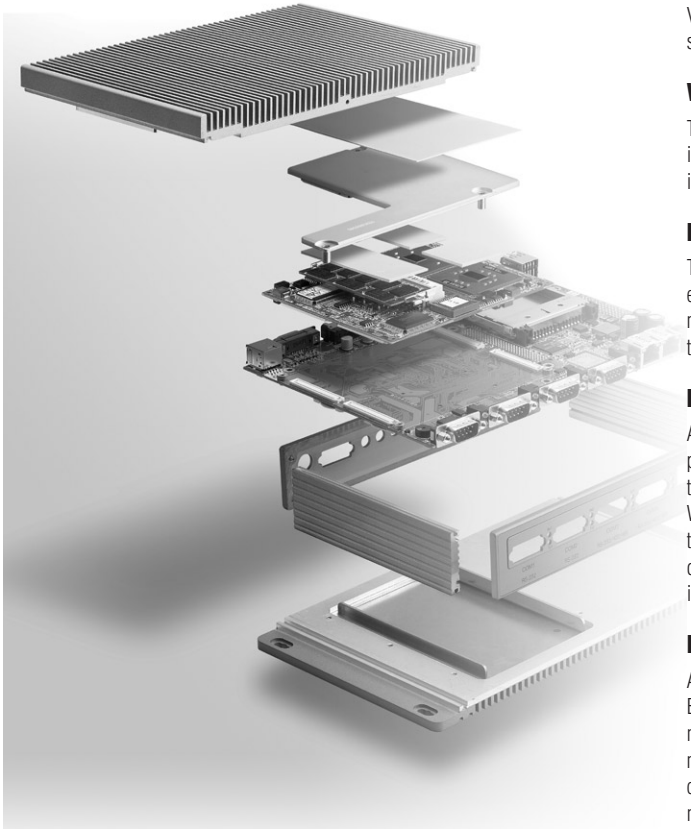


Fanless Box PC Overview

Introduction

Advantech's Fanless Box PCs are designed to fulfill the needs of mission critical automation applications. Their embedded design, industrial automation features and advanced computer technology deliver robustness, reliability and flexibility to satisfy customers who are looking for a rugged & compact computing platform with an industrial design and built-in I/O for diverse automation applications.

Leveraging field-approved and worldwide accepted real-time OS technology, Advantech provides Windows CE, Windows XP Embedded and Embedded Linux ready solutions and supports several standard networking interfaces, such as Ethernet, RS-232/422/485, onboard I/O lines, PC cards, CANbus and more. Because of its open architecture, great expansion capability and reliable fanless, cable-less and diskless design, Advantech's Fanless Box PCs are an ideal platform to implement diverse custom applications in power/energy, transportation, machine automation, factory automation, building automation, facility monitoring system, environment monitoring vertical markets.



Features

Fanless Design

Advantech's Fanless Box PCs are robust computers without rotating parts, such as a CPU fan, system fan, power supply fan or HDD. This concept significantly increases reliability, extends MTTR, and extremely reduces maintenance efforts. Therefore, you don't need to worry about a CPU cooler or HDD failure issue anymore, even in dusty environments.

No Internal Cabling

Unlike general Box PC designs where cables are used for wiring between connectors and CPU boards, connectors on Advantech's Fanless Box PCs are soldered directly on the PCB. Therefore, there is no internal cabling inside the chassis. This makes Advantech's Box PCs much more reliable than general Box PC's in harsh environments.

Industrial-grade Power Design

Advantech's Fanless Box PCs are designed to accept wide DC power input (ex. 9 ~ 36 V_{DC}) in factory floors. In addition, they also feature power reversal protection that prevents system damage when power inputs are reversed.

Wide Operating Temperature Range

This series supports wide operating temperature through selecting low-voltage CPU and industrial-grade components as well as associated thermal design that meets critical industrial-grade applications.

Battery-backup Memory

To keep critical data alive when system power is lost, Advantech's Fanless Box PCs is equipped with onboard battery-backup memory. Onboard battery supplies power to keep memory operating all the time. In addition, battery-backup memory can also acts as temporary runtime data buffer that helps reduce CF's access times dramatically.

Ready Embedded OS for Rapid Application Development

Advantech's Fanless Box PCs provide an embedded operating system offering a preconfigured image with optimized onboard device drivers. These Box PCs support the three most popular embedded operating systems: Microsoft Windows CE, Microsoft Windows XP Embedded and Embedded Linux. The embedded operating systems fulfill the toughest requirements of complete functionality and high reliability. This series quickly proves itself to be an application ready platform that will save time and energy in launching your projects.

Flexible Networking Options

Advantech's Fanless Box PCs support diverse ways to connect to a network, including Ethernet, Wireless LAN and Modems. Their built-in Ethernet port provides high-speed networking capability up to 1 Gbps. The PCMCIA expansion with WLAN/3G/GPRS/GSM module offers you a mobile and scalable network without incurring additional cabling costs. And through their serial ports, industrial modems offer the most popular and easiest networking way thru PSTN.

Embedded OS Introduction and Driver Support

Embedded OS Introduction

Advantech's Fanless Box PCs provide an embedded operating system solution offering a pre-configured image with optimized onboard device drivers. Advantech's Fanless Box PCs support the three most popular operating systems: Windows CE 6.0 R2 Windows XP Embedded SP2 Rollup 1.0 and Embedded Linux. These operating system fulfill the toughest requirements of complete functionality, high reliability, minimized cost and low power consumption. These Fanless Box PCs quickly prove themselves to be an application-ready platform that saves time and energy in launching projects.

Real-Time Windows CE Meets Time-critical Demands

Windows CE, published by Microsoft, is a robust, compact and highly efficient "hard" real-time operating system that quickly satisfies any customized high-performance embedded applications. It also provides enterprise-scale protection with demanding network security mechanisms, including Kerberos Security Protocol, Extensible Authentication Protocol, Secure Sockets Layer (SSL) and so on. Furthermore, Windows CE supports the latest stack network standard, IPv6 that provides more IP addresses than the previous standard, IPv4. Windows CE possesses robust core OS services and complete networking services to offer users an ideal embedded development platform.

WinXPe Provides Applications Compatible to Windows XP

Windows XP Embedded is a componentized version of Windows XP Professional, which is based on Windows XP Professional binaries and features the latest multimedia (Windows Media Player 11, DirectX 9.0c), browsing (Internet Explorer 7.0) technologies, security, Remote Desktop Protocol 6.0 and File-Based Write Filter (EWF). You can seamlessly integrate specific applications into Windows XP Embedded with minimum effort.

Open Source Embedded Linux Offers a Cost-effective Alternative

Embedded Linux is a famous, UNIX compatible, open source embedded operating system which ports the Linux kernel to a specific CPU and board installed into the embedded device. Advantech offers Embedded Linux installation CD for x86-based products and supports Fedora Core 4 and RedHat 9.0 kernels. In the Embedded Linux, it features X Windows, browsing (Dillo), PDF viewer (XPDF), FTP (GFTP), IPv6 and software management (RedHat Package Manager) in 50MB image size.

Driver Packages Provided for Popular Linux Distributions

Customers can install standard Linux distributions on UNO series Fanless Box PCs, and Advantech provides drivers for much of the hardware, with supported distributions and version listed below:

- Debian 3.1r0, 4.0
- Fedora Core 3, 4, 5, 6, 7, 8, 9
- Mandrake 10.1
- Mandriva 2006, 2008
- opensuse 10.3
- Redhat 9
- RHEL 4, 5
- SuSE 9.2, 9.3, 10.1
- Ubuntu 6.06, 8.04

If your distribution is not on the list, please contact us for further assistance.

Windows CE Software Support

Applications and Services Development	The combined Web and application services of Windows CE provide unsurpassed opportunities to build smart, mobile, and connected devices that have access to Windows operating systems, applications, databases, and the Internet. ▪ Active Template Library (ATL) ▪ C Libraries and Runtimes ▪ Component Services: Component Object Model (COM) and Distributed Component Object Model (DCOM) ▪ Device Management ▪ Lightweight Directory Access Protocol (LDAP) Client ▪ Microsoft Message Queuing (MSMQ) ▪ Microsoft Foundation Classes (MFC) ▪ Object Exchange Protocol (OBEX) ▪ Simple Object Access Protocol (SOAP) Toolkit ▪ Microsoft .NET Compact Framework ▪ XML
Applications: End User	Ready-to-use applications perform common tasks based on underlying services, providing rapid application deployment within specific classes of devices, such as mobile handheld devices, data collection devices, and thin clients. ▪ Microsoft ActiveSync® ▪ CAB File Installer/Uninstaller ▪ Help ▪ Remote Desktop Connection
Core Operating System Services	Core operating system services contain data on the Windows CE kernel and other features common to all Windows CE platforms. The core operating system services enable low-level tasks from process threads to memory management, and provide some file system functionality. ▪ USB Host Support ▪ Kernel Features ▪ Real-Time Support ▪ Fonts
Communication Services and Networking	Windows CE provides networking and communications capabilities that enable devices to connect and communicate securely with other devices and people over both wireless and wired networks. ▪ Networking Features: Protected Extensible Authentication Protocol (PEAP), firewall, Network Driver Interface Specification (NDIS) 5.1, utilities, Universal Plug & Play (UPnP), TCP/IP, TCP/IPv6 ▪ Local Area Network (LAN): 802.1x, 802.3, 802.5, Wireless Protected Access ▪ Wide Area Network (WAN): dial-up networking, point-to-point, telephony API ▪ Servers: File Transfer Protocol (FTP), telnet, Web server, Remote Access Service (RAS)
File Systems and Data Stores	File systems and data stores enable devices to compress, store, or read data from RAM or ROM and have varying responsibilities from filtering to partitioning. ▪ File System ▪ Registry Storage
Multimedia and Browsing Services	The Internet connectivity modules enable you to build sophisticated Internet access devices. Off-the-shelf protocols are available at various levels to provide multiple Internet access options. Windows CE includes the high performance Microsoft DirectX® API and Microsoft Windows Media® technologies found on desktop computers, enabling high-performance audio, video, and streaming media services on Windows CE–based devices. ▪ Internet Explorer 6.0 for Windows CE ▪ Scripting (Microsoft Jscript® 5.6, VBScript 5.6)
Security	Security services supported in Windows CE 5.0 help users to connect securely over networks and between specified devices, enabling better protection of personal content and data. Authentication Services ▪ Kerberos ▪ Secure Socket Layer (SSL) Cryptography Services ▪ CryptoAPI 1.0 with High Encryption Provider
Shell and User Interface	Ready-to-use, built-in user interfaces (UI) and UI services can save you considerable time when you want to create the sophisticated, easy-to-use, graphical devices that users demand. ▪ Graphics, Windowing, and Events ▪ Shell ▪ User Interface (customizable UI, software input panel)

Fanless Box PC Selection Guide

Model Name	UNO-1150	UNO-1150E	UNO-1170	UNO-1170E	UNO-2050E	UNO-2053E	UNO-2059E	UNO-2170	UNO-2171
CPU	GX2-400 MHz	GX2-400 MHz	Celeron M 1.0 GHz, Pentium M 1.4	Celeron M 1.0 GHz, Pentium M 1.4	GX2-400 MHz			Celeron M 600 MHz, Celeron M 1.0 GHz	Celeron M 1.0 GHz, Pentium M 1.4
Onboard RAM	256 MB DDR SDRAM	256 MD DDR SDRAM	512 MB/1 GB DDR SDRAM	512 MB/1 GB DDR SDRAM	256 MB DDR SDRAM			256 MB/512 MB DDR SDRAM	512 MB/1 GB DDR SDRAM
Battery-Backup SRAM	-	-	512 KB	512 KB	-			512 KB	512 KB
Display/Mouse/ Keyboard	VGA								
Audio	Yes	Yes	Yes	Yes	-	Yes	-	-	Yes
Serial Ports	1 × RS-232, 2 x RS-232/422/485	1 x RS-232, 2 x RS-232/422/485	2 x RS-232, 1 x RS-232/422/485	2 x RS-232, 1 x RS-232/422/485	2 x RS-232 2 x Isolated RS-232/422/485	2 x RS-232	2 x RS-232/485 2 x RS-232/422/485	2 x RS-232 2 x RS-232/422/485	2 x RS-232, 2 x RS-232/422/485
Ethernet Ports	2 x 10/100Base-T	2 x 10/100Base-T	2 x 10/100Base-T	2 x 10/100Base-T	2 x 10/100Base-T	2 x 10/100Base-T	1 x 10/100Base-T	2 x 10/100Base-T	2 x 10/100Base-T
USB Ports	Two	Two	Four (One internal)	Four (One internal)	-	Two	Two	Two	Two
PC Card Slots	-	-	-	-	-	One	One	One	One
Printer Ports	-	-	-	-	-	-	-	One	-
PC/104 Expansion	-	PCI-104	-	PC/104+	-	-	-	PC/104	PC/104+
PCIe/PCI Expansion	-	mini PCI	-	mini PCI	-	-	-	-	-
Onboard I/O	-	-	-	-	8-ch isolated DI 8-ch isolated DO	-	-	-	-
Watchdog Timer	Yes								
CompactFlash Slots	One internal	One Internal	One internal	One internal	One internal				Two internal
2.5" HDD Expansion	No	Yes	No	Yes	Option			Yes	
Operating Systems	Windows XP Embedded, Windows CE 6.0, Windows 2000/XP, Linux	Windows XP Embedded, Windows CE 6.0, Windows 2000/XP, Linux	Windows XP Embedded, Windows CE 6.0, Windows 2000/XP, Linux	Windows XP Embedded, Windows CE 6.0, Windows 2000/XP, Linux	Windows XP Embedded, Windows CE 5.0 & 6.0 Windows 2000/XP, Linux				
Mounting	DIN-rail/Wall							Wall	
Anti-Vibration	2G w/CF	2 G w/CF, 0.5 G w/HDD	2G w/CF	2G w/CF, 0.5G w/HDD	2 G w/CF, 1 G w/HDD			2 G w/CF, 0.5 G w/HDD	2 G w/CF, 1 G w/HDD
Anti-Shock	50 G w/CF	50 G w/CF, 20 G w/HDD	50 G w/CF	50G w/CF, 20G w/HDD	20 G w/CF @ DIN 50 G w/CF @ Wall/Panel			20 G w/HDD 50 G w/CF	20 G w/HDD 50 G w/CF
Power Input Range	9 ~ 36 V_{DC}						10 ~ 48 V_{DC}	9 ~ 36 V_{DC}	10 ~ 53 V_{DC}
Operating Temperature	-10 ~ 60° C (14 ~ 140° F)	-10 ~ 60° C (14 ~ 140° F)	-10 ~ 60° C (14 ~ 140° F)	-10 ~ 60° C (14 ~ 140° F)	-10 ~ 55° C (14 ~ 131° F)			-20 ~ 50° C (-4 ~ 122° F)	-20 ~ 65° C (-4 ~ 149° F)
Power Consumption Typical	15 W	15 W	24 W	24 W	15 W			24 W	24 W
Minimum Power Requirement	24 W +24 V @ 1 A power input	24 W +24 V @ 1 A power input	48 W +24 V @ 2 A power input	48 W +24 V @ 2 A power input	24 W, +24 V @ 1 A power input			48 W, +24 V @ 2 A power input	48 W, +24 V @ 2 A power input
Dimensions (W x D x H)	85 x 155 x 140 mm (3.4" x 6.1" x 5.6")	110 x 155 x 140 mm (4.4" x 6.1" x 5.6")	85 x 155 x 140 mm (3.4" x 6.1" x 5.6")	110 x 155 x 140 mm (4.4" x 6.1" x 5.6")	188.8 x 106.5 x 35.5 mm (7.5" x 4.2" x 1.4")			255 x 152 x 50 mm (10" x 6.0" x 2.0")	255 x 152 x 59 mm (10" x 6.0" x 2.3")
Weight	1.6 KG	2.0 KG	1.6 KG	2.0 KG	0.8 kg			1.6 kg	2.4 kg
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Model Name	UNO-2172	UNO-2176	UNO-2182	UNO-3072L	UNO-3072	UNO-3074	UNO-3282/3272	UNO-4672	UNO-4678
CPU	Celeron M 1.5 GHz, Pentium M 1.6 GHz	Celeron M 1.0 GHz, Pentium M 1.4 GHz	Core 2 Duo 1.5 GHz	Celeron M 1.0 GHz, Celeron M 1.5 GHz	Pentium M 1.4 GHz	Pentium M 1.8 GHz	Celeron M 1.86 GHz Core 2 Duo 1.5 GHz	Celeron M 1.0 GHz, Pentium M 1.4 GHz	Celeron M 1 GHz
Onboard RAM	1 GB DDR2 SDRAM	512 MB DDR SDRAM	1 GB DDR2 SDRAM	512 MB/1 GB DDR SDRAM	1 GB DDR SDRAM	1 GB DDR SDRAM	1 GB DDR2 SDRAM	1 GB DDR2 SDRAM	512 MB DDR SDRAM
Battery-Backup RAM	512 KB	512 KB	512 KB	-	512 KB			512 KB	-
Display/Mouse/ Keyboard	DVI-I	VGA	DVI-I	VGA			VGA+ DVI-D	VGA	VGA
Audio	Yes	-	Yes	-	-	-	Yes	-	-
Serial Ports	2 x RS-232, 2 x RS-232/422/485	2 x RS-232, 4 x Isolated RS-232/422/485	2 x RS-232, 2 x RS-232/422/485	2 x RS-232, 2 x RS-232/422/485				2 x Isolation RS-232, 8 x Isolated RS-232/422/485	2 x isolated RS-232, 6 x isolated RS-232/422/485
Ethernet Ports	2 x 10/100/1000Base-T	2 x 10/100Base-T	2 x 10/100/1000Base-T	2 x 10/100Base-T			2 x 10/100/ 1000Base-T	2 x 10/100/1000Base-T 4 x 10/100Base-T	3 x 10/100Base-T
USB Ports	Two	Two	Two	Four			Five (One internal)	Four (one internal)	Two
PC Card Slots	One	-	One	-	One		-	-	-
Printer Ports	-								
PC/104 Expansion	PCI-104	PC/104	PCI-104	-			-	PC/104+	PC/104
PCIe/PCI Expansion	-			Two PCI		Four PCI	One PCI + One PCIe x 1 or Two x PCI	-	-
Onboard I/O	-	8-ch Isolated DI 8-ch Isolated DO	-	4-ch isolated DI, 4-ch isolated DO			-	8-ch Isolated DI 8-ch Isolated DO	-
Watchdog Timer	Yes								
CompactFlash Slots	One internal	One internal	One internal	One internal	One internal, One external		One internal, One external	Two internal	One internal
2.5" HDD Expansion	Yes								
Operating Systems	Windows XP Embedded, Windows 2000/XP	Windows XP Embedded, Windows CE 5.0 & 6.0 Windows 2000/XP, Linux	Windows XP Embedded, Windows 2000/XP	Windows XP Embedded, Windows CE 5.0 & 6.0 Windows 2000/XP, Linux			Windows XP Embedded, Windows 2000/XP/Vista, Linux	Windows XP Embedded, Windows CE 5.0 & 6.0 Windows 2000/XP, Linux	Windows XP Embedded, Windows CE 5.0 & 6.0 Windows 2000/XP, Linux
Mounting	Wall			Wall/Panel/Stand			Wall/Stand	Rack Mount	Rack Mount
Anti-Vibration	2 G w/CF, 1 G w/HDD								
Anti-Shock	20 G w/HDD 50 G w/CF						20 G w/HDD 50 G w/CF	20 G w/HDD 50 G w/CF	20 G w/HDD 50 G w/CF
Power Input Range	9 ~ 36 V_{DC}			16 ~ 36 V_{DC}		20 ~ 36 V_{DC}	9 ~ 36 V_{DC}	AC : 90 ~ 250 V_{AC} DC : 106 ~ 250 V_{DC}	9 ~ 36 V_{DC}
Operating Temperature	-20 ~ 50° C (-4 ~ 122° F)	-20 ~ 65° C (-4 ~ 149° F)	-20 ~ 60° C (-4 ~ 140° F)	-20 ~ 60° C (-4 ~ 140° F)	-20 ~ 55° C (-4 ~ 131° F)		UNO-3282 -20 ~ 60° C (-4 ~ 140° F) UNO-3272 -20 ~ 50° C (-4 ~ 122° F)	-20 ~ 55° C (-4 ~ 131° F)	-10 ~ 55° C (14 ~ 131° F)
Power Consumption Typical	45 W	24 W	35 W	24 W			100 W	45 W	24 W (typical)
Power Requirement	48 W, +24 V @ 2 A power input					96 W, +24 V @ 4 A power input	120 W +24 V @ 5 A power input	90-250 V_{AC} 47-400 Hz 1.6-0.8 A or 106-250 V_{DC} 1.6-0.8A	48 W +24 V @ 2 A power input
Dimensions (W x D x H)	255 x 152 x 69 mm (10" x 6.0" x 2.7")	255 x 152 x 59 mm (10" x 6.0" x 2.3")	255 x 152 x 69 mm (10" x 6.0" x 2.7")	140 x 237 x 179 mm/ 153 x 237 x 179 mm (5.5" x 9.3" x 7.0"/ 6" x 9.3" x 7.0")	140 x 237 x 179 mm (5.5" x 9.3" x 7.0")	180 x 237 x 177 mm/ 193 x 237x 177 mm (7.1" x 9.3" x 7.0"/ 7.6" x 9.3" x 7.0")	200 x 240 x 130 mm (7.9" x 9.4" x 5")	440 x 220 x 88 mm (17.3" x 8.6" x 3.4")	440 x 220 x 44 mm (17.3" x 8.6" x 1.7")
Weight	3 kg	2.4 kg	3 kg	4.2 kg/6 kg	4.4 kg	5.0 kg/6.0 kg	5.5 kg	6.0 kg	3.6 kg
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UNO-1150/E

AMD Geode GX Fanless Box PC with 2 x LAN, 3 x COM, PCI-104

Features

- Onboard AMD Geode GX 533 (400 MHz) CPU
- One RS-232 and two RS-232/422/485 ports with automatic flow control.
- Two 10/100Base-T RJ-45 ports
- Two USB, audio and internal CompactFlash®
- Compact size, small foot print, saves space and front accessible for easy wiring
- DIN-rail design for easy installation in field cabinet
- Wide operating temperature range
- Windows® CE 6.0, Windows XP Embedded, and Linux ready solution
- Onboard system & I/O LED indicators
- Fanless desing with no intemal cabling

Introduction

UNO-1150 is an DIN-rail Mounted Fanless Box PC, which provides several serial communication ports and Ethernet interfaces, with a compact size, small foot print, and help to saves space and its front accessible is very convenient for wiring and DIN-rail design for easy installation in field cabinet. With rich OS and driver supports, such as Windows XP embedded, WinCE 6.0, and even embedded Linux. You can integrate your applications easily with an application ready platform that can provide a versatile function to fulfill diverse requirements.

Specifications

General

Certification	CE, FCC Class A, UL, CCC
Dimension (W x H x D)	85 x 155 x 140 mm (3.4" x 6.1" x 5.6") (UNO-1150) 110 x 155 x 140 mm (4.4" x 6.1" x 5.6") (UNO-1150E)
Enclosure	Aluminum + SECC
Mounting	DIN-rail, Wallmount
Power Consumption	15 W (Typical)
Power Requirement	9 ~ 36 V_{DC} (e.g +24 V @ 1 A) (Min. 24 W), AT
Weight	1.6 KG
OS Support	Windows XP Embedded, Windows 2000 & XP, Windows CE 6.0, Linux

System Hardware

CPU	AMD Geode GX 533 (400 MHz)
Memory	Onboard 256 MB DDR SDRAM
Indicators	LEDs for Power, IDE, LAN (Active, Status) and Serial (Tx, Rx) Buzzer for Diagnosis (programmable)
Keyboard/Mouse	1 x PS/2
Storage	SSD: 1 x internal type I/II CompactFlash® slot HDD: 2.5" SATA HDD bracket (Only for UNO-1150E)
PC/104 Slot	PCI-104 slot, supports 3.3 V & +5 V (Only for UNO-1150E)
Mini PCI	1x MiniPCI (UNO-1150E only)
Display	DB15 VGA connector, supports up to 1024 x 768 @ 60 Hz
Audio	Line in, Line out
Watchdog Timer	Programmable 256 levels timer interval, from 1 to 255 sec

I/O Interface

Serial Ports	1 x RS-232, 2 x RS-232/422/485 with DB9 connectors, Automatic RS-485 data flow control RS-232/422/485 ports support hardware 128 byte FIFO
Serial Port Speed	For RS-232 port: 50 ~ 115.2 kbps For RS-232/422/485 port: RS-232, 300 ~ 115.2 kbps For RS-232/422/485 port: RS-422/485, 300 ~ 921.6 kbps
LAN	2 x 10/100 Base-T RJ-45 ports
USB	2 x USB, OpenHCI, Rev. 1.1 compliant

Environment

Operating Temperature	-10 ~ 60° C (14 ~ 140° F)
Storage Temperature	-20 ~ 80° C (-4 ~ 176° F)
Operating Humidity	20 ~ 95% (non-condensing)
Storage Humidity	0 ~ 95% (non-condensing)
Shock Protection	IEC 68 2-27 CompactFlash®: 50 G @ wall mount, half sine, 11 ms HDD: 20 G @ wall mount, half sine, 11 ms (UNO-1150E)
Vibration Protection	IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.) CompactFlash®: 2 Grms @ 5 ~ 500 Hz HDD: 0.5 Grms @ 5 ~ 500 Hz (UNO-1150E)

Ordering Information

UNO-1150-G20E	GX2 400 MHz, 256 MB RAM Fanless Box PC
UNO-1150E-G20E	GX2 400 MHz, 256 MB, Fanless Box PC w/PCI-104

Accessories

UNO-FPM11-AE	UNO-1100 series VESA mount kit

UNO-1170/E

Intel® Pentium® M/Celeron® M Fanless Box PC with 2 x LAN, 3 x COM, 4 x USB, PC/104+

Features

- Onboard Celeron® M 1.0 GHz or Pentium® M 1.4 GHz
- Onboard 512 KB battery-backup SRAM
- Onboard system & I/O LED indicators
- Two RS-232 and one RS-232/422/485 ports with automatic flow control
- Two 10/100Base-T RJ-45 ports
- 3 x external USB and 1 x internal USB for dongle and flash drive
- PC/104+ expansion slots option
- DIN-rail design for easy installation in field cabinet
- Wide temperature operation
- Windows® CE 6.0, Windows XP Embedded, and Linux ready solution
- Supports Boot from LAN function
- Fanless design with no internal cabling

Introduction

UNO-1170(E) is an DIN-rail based Fanless Box PC, which provides several serial communication ports and Ethernet interfaces, with a compact size, small foot print, and help to saves space and its front accessible is very convenient for wiring and DIN-rail design for easy installation in field cabinet. With rich OS and driver supports, such as Windows XP embedded, WinCE 6.0, and even embedded Linux. You can integrate your applications easily with an application ready platform that can provide a versatile function to fulfill diverse requirements.

Specifications

General

Certification	CE, FCC Class A, UL, CCC
Dimension (W x H x D)	85 x 155 x 140 mm (3.4" x 6.1" x 5.6") (for UNO-1170) 110 x 155 x 140 mm (4.4" x 6.1" x 5.6") (for UNO-1170E)
Enclosure	Aluminum + SECC
Mounting	DIN-rail, Wallmount
Power Consumption	24 W (Typical)
Power Requirement	10 ~ 36 V_{DC} (e.g +24 V @ 2 A) (Min. 48 W), AT
Weight	1.6 KG (for UNO-1170) 2.0 KG (for UNO-1170E)
OS Support	Windows XP embedded, Windows 2000 & XP, Windows CE 6.0, Linux

System Hardware

CPU	Pentium M 1.4 GHz, Celeron M 1.0 GHz
Memory	512 MB/1 GB DDR SDRAM
Battery Backup SRAM	512 KB
Indicators	LEDs for Power, IDE, LAN (Active, Status), Serial (Tx, Rx), Alarm for battery backup SRAM and diagnosis (programmable) Buzzer for Diagnosis (programmable)
Keyboard/Mouse	1 x PS/2
Storage	SSD: 1 x internal type I/II CompactFlash slot HDD: one 2.5" SATA HDD bracket (Only for UNO-1170E)
PC/104 Slot	PC/104+ slot, supports 3.3 V & +5 V (Only for UNO-1170E)
Mini PCI	1x MiniPCI (UNO-1170E only)
Display	DB15 VGA connector, 1600 x 1200 @ 85 Hz
Audio	Line in, Line out
Watchdog Timer	Programmable 256 levels timer interval, from 1 to 255 sec

I/O Interface

Serial Ports	2 x RS-232, 1 x RS-232/422/485 with DB9 connectors, Automatic RS-485 data flow control
Serial Port Speed	RS-232: 50 ~ 115.2 kbps RS-422/485: 50 ~ 921.6 kbps
LAN	2 x 10/100 Base-T RJ-45 ports (Built-in boot ROM in flash BIOS)
USB	4 x USB, EHCI, Rev. 2.0 compliant (1 is for USB dongle and USB flash inside chassis)

Environment

Operating Temperature	-10 ~ 60° C (-4 ~ 140° F)
Storage Temperature	-20 ~ 80° C (-4 ~ 176° F)
Operating Humidity	20 ~ 95% (non-condensing)
Storage Humidity	0 ~ 95% (non-condensing)
Shock Protection	IEC 68 2-27 CompactFlash: 50 G @ wall mount, half sine, 11 ms HDD: 20 G @ wall mount, half sine, 11 ms (Only for UNO-1170E)
Vibration Protection	IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.) CompactFlash®: 2 Grms @ 5 ~ 500 Hz, HDD: 0.5 Grms @ 5 ~ 500 Hz (Only for UNO-1170E)

Ordering Information

UNO-1170-C11E	Celeron M 1 GHz, 512 MB RAM Fanless Box PC
UNO-1170E-C11E	Celeron M 1 GHz, 512 MB, Fanless Box PC w/PC/104+
UNO-1170-P12E	Pentium M 1.4 GHz, 1 GB RAM Fanless Box PC
UNO-1170E-P12E	Pentium M 1.4 GHz, 1 GB, Fanless Box PC w/PC/104+

Accessories

UNO-FPM11-AE	UNO-1100 series VESA mount kit

UNO-2050E

AMD Geode GX Fanless Box PC with 2 x LAN, 4 x COM, 8 x DI, 8 x DO

Features

- Onboard AMD Geode GX533 (400 MHz) CPU
- Two RS-232 and two isolated RS-232/422/485 with automatic flow control
- Two 10/100 Base-T RJ-45 ports
- 8-ch Isolated DI and 8-ch Isolated DO with counter and timer
- Windows® CE 5.0 & 6.0, Windows XP Embedded SP2, and Linux ready solution
- Fanless design with no internal cabling

Introduction

UNO-2050E is an X86-grade platform with dual LAN and 16-channel isolated digital I/O and timer/counter. In addition, it also provides two RS-232 and two isolated RS-232/422/485 communication ports with RS-485 automatic flow control functionality. Therefore, the UNO-2050E is an ideal solution for embedded controllers.

UNO-2050E is available with a pre-configured Windows CE image with optimized onboard device drivers. Microsoft Windows CE is a compact, highly efficient, real-time operating system designed for embedded systems without mechanical HDD limitations. To expand storage capability, the UNO-2050E allows the addition of an external 2.5" HDD using Advantech's HDD expansion kit. It can be used for large data backup requirements and popular OS installations such as Microsoft Windows and Linux OS. Significant anti-vibration (1G w/HDD) is maintained even with the mechanical HDD inside. UNO-2050E is the perfect embedded application ready platform that can shorten development time and offer a rich networking interface to fulfill diverse application requirements.

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 188.8 x 106.5 x 35.5 mm (7.5" x 4.2" x 1.4")
- **Enclosure** Aluminum
- **Mounting** Wallmount, DIN-rail
- **Power Consumption** 15 W (Typical)
- **Power Requirements** 9 ~ 36 V_{DC} (e.g +24 V @ 1 A) (Min. 24 W), AT
- **Weight** 0.8 kg
- **OS Support** Windows XP Embedded, Windows 2000 & XP, Windows CE 5.0 & 6.0, Linux

System Hardware

- **CPU** AMD Geode GX533 (400 MHz)
- **Memory** Onboard 256 MB DDR SDRAM
- **Indicators** LEDs for Power, IDE, Diagnosis (programmable) and LAN (Active, Status)
  Buzzer for Diagnosis (programmable)
- **Keyboard/Mouse** 1 x PS/2
- **Storage** SSD: 1 x internal type I/II CompactFlash® slot
  HDD: expansion kit for 2.5" IDE HDD (Optional)
- **Display** DB15 VGA connector, 1024 x 768 @ 60 Hz
- **Watchdog Timer** Programmable 256 levels timer interval, from 1 to 255 sec

I/O Interface

- **Counter/Timer** 2 x 16-bit: counter source: DI6 & DI7, Pulse output: DO6 & DO7. Can be cascaded as one 32-bit counter/timer, Down counting, preset counting value, interrupt handling, Timer time base: 100/10/1 kHz,100 Hz
- **Digital Inputs** 8 ch. wet contact 2,000 V_{DC} isolation, 2,000 V_{DC} ESD protection, 70 V_{DC} over-voltage protection
  0 ~ 50 V_{DC} input range and 10 kHz speed; Interrupt handling
- **Digital Outputs** 8 ch. 2,000 V_{DC} isolation and 200 mA max/channel sink current. Keeps output status after system hot reset.
  5 ~ 40 V_{DC} output range and 10 kHz speed
- **LAN** 2 x 10/100Base-T with RJ-45 port
- **Serial Ports** 2 x standard RS-232 (COM1/COM2)
  2 x isolated RS-232/422/485 (COM3/COM4)
  Automatic RS-485 data flow control
  RS-232/422/485 (COM3/COM4) with 2000 V_{DC} (EFT) surge protection & 2000 V_{DC} isolation
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps (COM1/COM2)
  50 ~ 230.4 kbps (COM3/COM4)
  RS-422/485: 50 ~ 921.6 kbps (Max.)

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -10 ~ 55° (14 ~ 131° F)
- **Shock Protection** IEC 68 2-27
  CompactFlash: 20 G @ DIN, half sine, 11 ms,
  50 G @ Wall/Panel, half sine, 11 ms
- **Vibration Protection** IEC 68 2-6
  CompactFlash: 2 Grms @ sine, 5 ~ 500 Hz,
  1 Oct./min, 1hr/axis.
  HDD: 1 Grms @ sine, 12 ~ 300 Hz, 1 Oct./min,
  1hr/axis.

Ordering Information

- **UNO-2050E-IDA0E** GX2 400 MHz, 256 MB RAM Fanless Box PC

Accessories

- **UNO-HD20-AE** UNO-2000 HDD expansion kit
- **UNO-FPM21-AE** UNO-2000 series VESA mount kit

UNO-2053E

AMD Geode GX Fanless Box PC with 2 x LAN, 2 x COM, Audio, PC Card

Features

- Onboard AMD Geode GX533 (400 MHz) CPU
- Two standard RS-232 and one DB-15 VGA connector
- Two 10/100Base-T RJ-45 ports
- Two USB and one type I/II PC card slot
- Audio with Mic in, Line in, Line out
- Windows® CE 5.0 & 6.0, Windows XP Embedded SP2, and Linux ready solution
- Fanless design with no internal cabling

Introduction

The Advantech UNO-2053E is a X86-grade platform that offers dual LAN, dual USB and PC card interfaces to fulfill user's diverse communication needs. In addition, it also offers two RS-232 communication ports on board. Therefore, the UNO-2053E is an ideal solution for data gateway applications. UNO-2053E is available with a pre-configured Windows CE image with optimized onboard device drivers. Microsoft Windows CE is a compact, highly efficient, real-time operating system designed for embedded systems without mechanical HDD limitations.

To expand storage capability, the UNO-2053E allows the addition of an external 2.5" HDD using Advantech's UNO HDD expansion kit. It can be used for large data backup requirements and popular OS installations such as Microsoft Windows and Linux OS. Significant anti-vibration is maintained even with the mechanical HDD inside. (1 G)

UNO-2053E is a perfect embedded application-ready platform that can shorten your development time and offer a rich networking interface to fulfill diverse requirements.

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 188.8 x 106.5 x 35.5 mm (7.5" x 4.2" x 1.4")
- **Enclosure** Aluminum
- **Mounting** Wallmount, DIN-rail
- **Power Consumption** 15 W (Typical)
- **Power Requirements** 9 ~ 36 V_{DC} (e.g +24 V @ 1 A) (Min. 24 W), AT
- **Weight** 0.8 kg
- **OS Support** Windows XP Embedded, Windows 2000 & XP, Windows CE 5.0 & 6.0, Linux

System Hardware

- **CPU** AMD Geode GX533 (400 MHz)
- **Memory** Onboard 256 MB DDR SDRAM
- **Indicators** LEDs for power, IDE and LAN (Active, Status)
- **Keyboard/Mouse** 1 x PS/2
- **Storage** SSD: 1 x internal type I/II CompactFlash® slot
  HDD: expansion kit for 2.5" IDE HDD (Option)
- **Display** DB15 VGA connector, 1024 x 768 @ 60 Hz
- **Audio** Mic in, Line in, Line out
- **Watchdog Timer** Programmable 256 levels timer interval, from 1 to 255 sec

I/O Interface

- **LAN** 2 x 10/100Base-T RJ-45 ports
- **PC Card** 1 x PC Card slot
  Supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) Card
  Supports +5 V, +3.3 V and +12 V @ 120 mA working power
- **Serial Ports** 2 x standard RS-232
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps
- **USB Ports** 2 x USB ports, USB OpenHCI, Rev. 1.1 compliant

Environment

- **Humidity** 95 % @ 40°C (non-condensing)
- **Ingress Protection** IP40
- **Operating Temperature** -10 ~ 55° C (14 ~ 131° F)
- **Shock Protection** IEC 68 2-27
  CompactFlash®: 20 G @ DIN, half sine, 11 ms,
  50 G @ Wall/Panel, half sine, 11 ms
- **Vibration Protection** IEC 68 2-6
  CompactFlash: 2 Grms @ sine, 5 ~ 500 Hz,
  10 ct./min, 1hr/axis
  HDD: 1 Grms @ sine, 12 ~ 300 Hz, 10 ct./min,
  1hr/axis

Ordering Information

- **UNO-2053E-IDA0E** GX2 400 MHz, 256 MB RAM Fanless Box PC

Accessories

- **UNO-HD20-AE** UNO-2000 HDD expansion kit
- **UNO-FPM21-AE** UNO-2000 series VESA mount kit

UNO-2059E

AMD Geode GX Fanless Box PC with 4 x COM, LAN, PC Card

Features

- Onboard AMD Geode GX533 (400 MHz) CPU
- 2 x RS-232/485, 2 x RS-232/422/485 with automatic flow control
- 1 x 10/100Base-T RJ-45 port
- 2 x USB ports and 1 x type I/II PC card
- One programmable diagnostic LED and buzzer
- Windows® CE 5.0 & 6.0, Windows XP Embedded SP2, and Linux ready solution
- Fanless design with no internal cabling

Introduction

Advantech's UNO-2059E is an X86-grade platform that offers USB and PC card interfaces to fulfill I/O device expansion needs. In addition, it also offers two RS-232/485 and two RS-232/422/485 communication ports with automatic flow control functionality. The UNO-2059E is an ideal compact solution for large computing and communication requirements.

UNO-2059E is available with a pre-configured Windows CE image with optimized onboard device drivers. Microsoft Windows CE is a compact, highly efficient, real-time operating system designed for embedded systems without mechanical HDD limitations. To expand storage capability, the UNO-2059E allows the addition of an external 2.5" HDD using Advantech's HDD expansion kit. It can be used for large data backup requirements and popular OS installations such as Microsoft Windows and Linux OS. Significant anti-vibration (1G w/HDD) is maintained even with the mechanical HDD inside.

Specifications

General

- **Certifications** CE, FCC class A
- **Dimensions (W x D x H)** 188.8 x 106.5 x 35.5 mm (7.5" x 4.2" x 1.4")
- **Enclosure** Aluminum
- **Mounting** Wallmount, DIN-rail
- **Power Consumption** 15 W (typical)
- **Power Requirements** 10 ~ 48 V_{DC} (e.g +24 V @ 1 A) (Min. 24 W), AT
- **Weight** 0.8 kg
- **OS Support** Windows XP Embedded, Windows 2000 & XP, Windows CE 5.0 & 6.0, Linux

System Hardware

- **CPU** AMD Geode GX533 (400 MHz)
- **Memory** Onboard 256 MB DDR SDRAM
- **Indicators** LEDs for power, IDE, diagnosis (programmable) and LAN (Active, Status)
  Buzzer for diagnosis (programmable)
- **Keyboard/Mouse** 1 x PS/2
- **Storage** SSD: 1 x internal type I/II CompactFlash® slot
  HDD: expansion kit for 2.5" IDE HDD (Option)
- **Display** DB15 VGA connector, 1024 x 768 @ 60 Hz
- **Watchdog Timer** Programmable 256 levels timer interval, from 1 to 255 sec

I/O Interface

- **Serial Ports** 2 x RS-232/485, 2 x RS-232/422/485
  - Automatic RS-485 data flow control
  - RS-422/485 surge protection up to 2,000 V_{DC}
- **Serial Port Speed** RS-232: 50 ~ 230.4 kbps;
  RS-422/485: 50 ~ 921.6 kbps (Max.)
- **USB Ports** 2 x USB ports, OpenHCI, Rev. 1.1 compliant
- **LAN** 1 x 10/100Base-T RJ-45 port
- **PC Card** 1 x PC card slot
  Supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) Card
  Supports +5 V, +3.3 V and 12 V @ 120 mA Power

Environment

- **Humidity** 95 % @ 40° C (non-condensing)
- **Ingress Protection** IP40
- **Operating Temperature** -10 ~ 55° C (14 ~ 131° F)
- **Shock Protection** IEC 68 2-27
  CompactFlash®: 20 G @ DIN, half sine, 11 ms,
  50 G @ Wall/Panel, half sine, 11 ms
- **Vibration Protection** IEC 68 2-6
  CompactFlash®: 2 Grms @ sine, 5 ~ 500 Hz,
  1 Oct./min, 1hr/axis.
  HDD: 1 Grms @ sine, 12 ~ 300 Hz, 1 Oct./min,
  1 hr/axis.

Ordering Information

- **UNO-2059E-IDA0E** GX2 400 MHz, 256 MB RAM Fanless Box PC

Accessories

- **UNO-HD20-AE** UNO-200 HDD expansion kit
- **UNO-FPM21-AE** UNO-2000 series VESA mount kit

UNO-2170

Intel® Celeron® M Fanless Box PC with 2 x LAN, 4 x COM, PC/104

Features

- Onboard Celeron® M 600 MHz or Celeron M 1.0 GHz
- Onboard 512 KB battery-backup SRAM
- Two RS-232 and two RS-232/422/485 ports with automatic flow control.
- Two 10/100Base-T RJ-45 ports
- Two USB and one type I/II PC card
- PC/104 expansion slots
- Windows® CE 5.0 & 6.0, Windows XP Embedded, and Linux ready solution
- Onboard system status LED indicators
- Supports Boot from LAN function
- Fanless design with no internal cabling

Introduction

UNO-2170 is an Fanless Box PC that supports PC/104 expansion, serial communication ports and several other networking interfaces. UNO-2170 supports Windows XP Embedded OS and Windows CE 5.0 & 6.0, which offers a pre-configured image with optimized onboard device drivers. Windows XP Embedded delivers the power of the Windows operating system in componentized form. You can seamlessly integrate your applications into Windows XP Embedded and speed up your system development with an application ready platform that can provide a rich networking interface to fulfill diverse requirements.

Specifications

General

Certifications	CE, FCC class A, UL, CCC
Dimensions (W x D x H)	255 x 152 x 50 mm (10" x 6.0" x 2.0")
Enclosure	Aluminum
Mounting	Wallmount
Power Consumption	24 W (Typical)
Power Requirements	9 ~ 36 V_{DC} (e.g +24 V @ 2 A) (Min. 48 W), AT
Weight	1.6 kg
OS Support	Windows XP Embedded, Windows 2000/XP, Windows CE 5.0 & 6.0, Linux

System Hardware

CPU	Celeron M 600 MHz, Celeron M 1.0 GHz
Memory	256 MB/512 MB DDR SDRAM
Battery Backup SRAM	512 KB
Indicators	LEDs for Power, IDE, Alarm for battery backup SRAM, LAN (Active, Status) and Serial (Tx, Rx)
Keyboard/Mouse	1 x PS/2
PC Card	1 x PC Card slot, supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) card Supports +5, +3.3 and +12 V @ 120 mA working power
PC/104 Slot	2 x PC/104 slots (optional). Supports +5 V power
Printer Port	1 x printer port
Storage	SSD: 1 x internal type I/II CompactFlash® slot HDD: Build-in one 2.5" SATA/IDE HDD bracket
Display	DB15 VGA connector, 1600 x 1200 @ 85 Hz
Watchdog Timer	Programmable 256 levels timer interval, from 1 to 255 sec

I/O Interface

Serial Ports	2 x RS-232, 2 x RS-232/422/485 with DB9 connectors Automatic RS-485 data flow control
Serial Port Speed	RS-232: 50 ~ 115.2 kbps RS-422/485: 50 ~ 921.6 kbps (Max.)
LAN	2 x 10/100 Base-T RJ-45 ports (Built-in boot ROM in flash BIOS)
USB Ports	2 x USB, EHCI, Rev. 2.0 compliant

Environment

Humidity	95% @ 40° C (non-condensing)
Operating Temperature	-20 ~ 50° C (-4 ~ 122° F) @ 5 ~ 85% RH.
Shock Protection	IEC 68 2-27 CompactFlash: 50 G @ wall mount, half sine, 11 ms HDD: 20 G @ wall mount, half sine, 11 ms
Vibration Protection	IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.) CompactFlash: 2 Grms @ 5 ~ 500 Hz, HDD: 0.5 Grms @ 5 ~ 500 Hz

Ordering Information

UNO-2170-C00BE	Celeron M 600 MHz, 256 MB RAM Fanless Box PC
UNO-2170-C11BE	Celeron M 1 GHz, 512 MB RAM Fanless Box PC

Accessories

UNO-PCM21-AE	2 x PC/104 expansion kit for UNO-2170
UNO-FPM21-AE	UNO-2000 series VESA mount kit

UNO-2171

Intel® Pentium® M/Celeron® M Fanless Box PC with 2 x LAN, 4 x COM, PC/104+

Features

- Onboard Pentium® M 1.4 GHz or Celeron® M 1.0 GHz
- Onboard 512 KB battery-backup SRAM
- Two RS-232 and two RS-232/422/485 ports with automatic flow control
- Two 10/100Base-T RJ-45 ports
- Audio with Mic in, Line in, Line out
- Two USB and one type I/II PC card
- PC/104+ expansion slots
- Windows® CE 5.0 & 6.0, Windows XP Embedded SP2, and Linux ready solution
- Onboard system status LED indicators
- Supports Wake on LAN and Boot from LAN function
- Fanless design with no internal cabling

Introduction

UNO-2171 is an embedded automation computer that supports PC/104+ expansion, serial communication ports and several other networking interfaces. UNO-2171 supports Windows XP Embedded OS and Windows CE 5.0 & 6.0, which offers a pre-configured image with optimized onboard device drivers. Windows XP Embedded delivers the power of the Windows operating system in componentized form. You can seamlessly integrate your applications into Windows XP Embedded and speed up your system development with an application ready platform that can provide a rich networking interface to fulfill diverse requirements.

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 255 x 152 x 59 mm (10" x 6.0" x 2.3")
- **Enclosure** Aluminum
- **Mounting** Wallmount
- **Power Consumption** 24 W (Typical)
- **Power Requirements** 10 ~ 53 V_{DC} (e.g +24 V @ 2 A) (Min. 48 W), ATX
- **Weight** 2.4 kg (Typical)
- **OS Support** Windows XP Embedded, Windows 2000/XP, Windows CE 5.0 & 6.0, Linux

System Hardware

- **CPU** Pentium M 1.4 GHz, Celeron M 1.0 GHz
- **Memory** 512 MB/1 GB DDR SDRAM
- **Battery Backup SRAM** 512 KB
- **Indicators** LEDs for Power, IDE, Alarm for battery backup SRAM, LAN (Active, Status) and Serial (Tx, Rx)
- **Keyboard/Mouse** 1 x PS/2
- **PC Card** 1 x PC Card slot, supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) card
  Supports +5 V, +3.3 V
- **PC/104 Slot** PC/104+ slot, Supports +5 & 3.3 V Power
- **Storage** SSD: 2 x internal type I/II CompactFlash® slot
  HDD: Build-in one 2.5" SATA/IDE HDD bracket
- **Display** DB15 VGA connector, 1600 x 1200 @ 85 Hz
- **Audio** Mic in, Line in, Line out
- **Watchdog Timer** Programmable 256 levels timer interval, from 1 to 255 sec

I/O Interface

- **Serial Ports** 2 x RS-232, 2 x RS-232/422/485 with DB9 connectors
  Automatic RS-485 data flow control
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps
  RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 2 x 10/100Base-T RJ-45 ports (supports wake on LAN and built-in boot ROM in flash BIOS)
- **USB Ports** 2 x USB, EHCI, Rev. 2.0 compliant

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -20 ~ 65° C (-4 ~149° F) @ 5 ~ 85% RH
- **Shock Protection** IEC 68 2-27
  CompactFlash: 50 G @ wall mount, half sine, 11 ms
  HDD: 20 G @ wall mount, half sine, 11 ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
  CompactFlash: 2 Grms @ 5 ~ 500 Hz,
  HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-2171-C11BE** Celeron M 1 GHz, 512 MB RAM Fanless Box PC
- **UNO-2171-P12BE** Pentium M 1.4 GHz, 1 GB RAM Fanless Box PC

Accessories

- **UNO-PCM22-AE** 2 x PC/104 expansion kit for UNO-2100 series
- **UNO-FPM21-AE** UNO-2000 series VESA mount kit

UNO-2172

Intel® Pentium® M/Celeron® M Fanless Box PC with 2 x GbE, 4 x COM, DVI

Features

- Onboard Pentium® M 1.6 GHz, Celeron® M 1.5 GHz or Celeron M 1.0 GHz
- Onboard 512 KB battery-backup SRAM
- 2 x RS-232 and two RS-232/422/485 ports with automatic flow control
- 2 x 10/100/1000Base-T Ethernet
- DVI-I supports dual display
- Audio with Mic in, Line in, Line out
- Two USB and one type I/II PC card
- PCI-104 expansion
- Windows® XP Embedded SP2 ready solution
- Supports SATA-1 HDD and external SATA 1.0 devices
- Onboard system status LED indicators
- Supports Wake on LAN and Boot from LAN function
- Fanless design with no internal cabling

Introduction

UNO-2172 is a high-performance Pentium grade controller that supports PCI-104 expansion, serial communication ports and several other networking interfaces. UNO-2172 supports Windows XP Embedded OS, which offers a pre-configured image with optimized onboard device drivers. Windows XP Embedded delivers the power of the Windows operating system in componentized form. You can seamlessly integrate your applications into Windows XP Embedded and speed up your system development with an application ready platform that can provide a rich networking interface to fulfill diverse requirements.

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 255 x 152 x 69 mm (10" x 6.0" x 2.7")
- **Enclosure** Aluminum
- **Mounting** Wallmount
- **Power Consumption** 45 W (Typical)
- **Power Requirements** Min. 48 W (9 ~ 36 V_{DC}) (e.g +24 V @ 2 A), ATX
- **Weight** 3 kg
- **OS Support** Windows XP Embedded, Windows 2000/XP, Linux

System Hardware

- **CPU** Pentium M 1.6 GHz, Celeron M 1.5 GHz
- **Memory** 1 GB DDR2 SDRAM
- **Indicators** LEDs for Power, IDE, Alarm for battery backup SRAM, LAN (Active, Status) and Serial (Tx, Rx)
- **Battery Backup SRAM** 512 KB
- **Keyboard/Mouse** 1 x PS/2
- **PC Card** 1 x PC Card slot, supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) card
  Supports +5 V, +3.3 V
- **PC/104 Slot** PCI-104 slot, supports +5 & 3.3 V Power
- **Storage** SSD: 1 x internal type I/II CompactFlash® slot
  HDD: Build-in one 2.5" SATA/IDE HDD bracket
- **Display** DVI-I supports DVI and VGA for dual display
- **Audio** Mic in, Line in, Line out
- **SATA** 1 x internal, 1 x external SATA 1.0
- **Watchdog Timer** Programmable 256 levels timer interval, from 1 to 255 sec

I/O Interface

- **Serial Ports** 2 x RS-232, 2 x RS-232/422/485 with DB9 connectors
  Automatic RS-485 data flow control
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps
  RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 2 x 10/100/1000Base-T Ethernet (supports wake on LAN and built-in boot ROM in flash BIOS)
  RJ45 ports
- **USB Ports** 2 x USB, EHCI, Rev. 2.0 compliant

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -20 ~ 50° C (-4 ~ 122° F) @ 5 ~ 85% RH. (for UNO-2172-C22E and UNO-2172-P22E)
  -20 ~ 60° C (-4 ~ 131° F) @ 5 ~ 85% RH. (for UNO-2172-C11E)
- **Shock Protection** IEC 68 2-27
  CompactFlash: 50 G @ wall mount, half sine, 11 ms
  HDD: 20 G @ wall mount, half sine, 11 ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
  CompactFlash: 2 Grms @ 5 ~ 500 Hz,
  HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-2172-C22E** Celeron M 1.5 GHz, 1 GB RAM Fanless Box PC
- **UNO-2172-P22E** Pentium M 1.6 GHz, 1 GB RAM Fanless Box PC

Accessories

- **UNO-PCM22-AE** 2 x PC/104 expansion kit for UNO-2100 series
- **UNO-FPM21-AE** UNO-2000 series VESA mount kit

UNO-2176

Intel® Pentium® M/Celeron® M Fanless Box PC with 2 x LAN, 6 x COM, 8 x DI, 8 x DO

Features

- Onboard Pentium® M 1.4 GHz/Celeron® M 1.0 GHz
- Onboard 512 KB battery-backup SRAM
- Two RS-232 and four isolated RS-232/422/485 ports with automatic flow control
- 8-ch Isolated DI and 8-ch Isolated DO with counter and timer
- Two 10/100Base-T RJ-45 ports
- Two USB ports
- PC/104 expansion slots
- Windows® CE 5.0 & 6.0, Windows XP Embedded SP2, and Linux ready solution
- Onboard system status LED indicators
- Supports Boot from LAN function
- Fanless design with no internal cabling

Introduction

UNO-2176 is an embedded automation computer that supports PC/104 expansion, serial communication ports and several other networking interfaces. UNO-2176 supports Windows XP Embedded OS and Windows CE 5.0 & 6.0, which offers a pre-configured image with optimized onboard device drivers. Windows XP Embedded delivers the power of the Windows operating system in componentized form. You can seamlessly integrate your applications into Windows XP Embedded and speed up your system development with an application ready platform that can provide a rich networking interface to fulfill diverse requirements.

Specifications

General

Certification	CE, FCC Class A, UL, CCC
Dimension (W x D x H)	255 x 152 x 59 mm (10" x 6.0" x 2.36")
Enclosure	Aluminum
Mounting	Wallmount
Power Consumption	24 W (Typical)
Power Requirements	9 ~ 36 V_{DC} (e.g +24 V @ 2 A) (Min. 48 W), AT
Weight	2.4 kg
OS Support	Windows XP Embedded, Windows 2000/XP, Windows CE 5.0 & 6.0, Linux

System Hardware

CPU	Pentium M 1.4 GHz, Celeron M 1.0 GHz
Memory	512 MB DDR SDRAM
Battery Backup SRAM	512 KB
Indicators	LEDs for Power, IDE, Alarm for battery backup SRAM, Diagnosis (programmable), LAN (Active, Status) and Serial (Tx, Rx)
Keyboard/Mouse	1 x PS/2
PC/104 Slot	PC/104 Supports +5V Power
Storage	SSD: 1 x internal type I/II CompactFlash® slot HDD: Build-in one 2.5" SATA/IDE HDD bracket
Display	DB15 VGA connector, 1600 x 1200 @ 85 Hz
Watchdog Timer	Programmable 256 levels timer interval, from 1 to 255 sec

I/O Interface

Serial Ports	2 x RS-232 2 x isolated RS-232/422/485 with DB9 connectors 2 x isolated RS-232/422/485 with 5-pin screw terminal Automatic RS-485 data flow control Isolation protection: 2,000 V_{DC} Surge protection: 2,000 V_{DC} (EFT)
Serial Port Speed	(COM1, COM2) RS-232: 50 ~ 115.2 kbps, (COM3-COM6) RS-232: 300 ~ 115.2 kbps RS-422/485: 300 ~ 921.6 kbps (Max.)
LAN	2 x 10/100Base-T RJ-45 ports (Built-in boot ROM in flash BIOS)
USB	2 x USB, EHCI, Rev. 2.0 compliant
Digital Inputs	8-ch wet contact - Logic 0: 0 ~ 3 V_{DC} ; Logic 1: 10 ~ 50 V_{DC} - 2,000 V_{DC} isolation - 2,000 V_{DC} ESD protection - 70 V_{DC} over-voltage protection - ±50 V_{DC} input range and 10 kHz speed - Interrupt handling speed: 10 kHz
Digital Outputs	8-ch DO - 2,000 V_{DC} isolation and 200 mA max/channel sink current - Keep output status after system hot reset - 5 ~ 40 V_{DC} output range and 10 kHz speed
Timer/Counter	Timer/Counter - Counter source: DI1 & DI3, Pulse output: DO2 & DO3 - Can be cascaded as one 32-bit counter/timer - Down counting, preset counting value - Timer time base: 100 kHz, 10 kHz, 1 kHz, 100 Hz

Environment

Humidity	95% @ 40° C (non-condensing)
Operating Temperature	UNO-2176-C11E: -20 ~ 65° C (-4 ~ 149° F) @ 5 ~ 85% RH UNO-2176-P11E: -20 ~ 60° C (-4 ~ 140° F) @ 5 ~ 85% RH
Operating Humidity	20 ~ 95% (non-condensing)
Shock Protection	IEC 68 2-27 CompactFlash®: 50 G @ wall mount, half sine, 11 ms HDD: 20 G @ wall mount, half sine, 11 ms
Vibration Protection	IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.) CompactFlash®: 2 Grms @ 5 ~ 500 Hz, HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

UNO-2176-C11BE	Celeron M 1 GHz, 512 MB RAM Fanless Box PC
UNO-2176-P11BE	Pentium M 1.4 GHz, 512 MB RAM Fanless Box PC

Accessories

UNO-PCM22-AE	2 x PC/104 expansion kit for UNO-2100 series
UNO-FPM21-AE	UNO-2000 series VESA mount kit

UNO-2182

Intel® Core™ 2 Duo Fanless Box PC with 2 x GbE, 4 x COM, DVI

Features

- Onboard Core™ 2 Duo 1.5 GHz (L7400)
- Onboard 512 KB battery-backup SRAM
- 2 x RS-232 and two RS-232/422/485 ports with automatic flow control
- 2 x 10/100/1000Base-T Ethernet
- DVI-I supports dual display
- Audio with Mic in, Line in, Line out
- Two USB and one type I/II PC card
- PCI-104 expansion
- Windows® XP Embedded SP2 ready solution
- Supports SATA -1 HDD and external eSATA devices
- Onboard system status LED indicators
- Supports Wake on LAN and Boot from LAN function
- Fanless design with no internal cabling

Introduction

UNO-2182 is a high-performance Core 2 Duo grade controller that supports PCI-104 expansion, serial communication ports and several other networking interfaces. UNO-2182 supports Windows XP Embedded OS, which offers a pre-configured image with optimized onboard device drivers. Windows XP Embedded delivers the power of the Windows operating system in componentized form. You can seamlessly integrate your applications into Windows XP Embedded and speed up your system development with an application ready platform that can provide a rich networking interface to fulfill diverse requirements.

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 255 x 152 x 69 mm (10" x 6.0" x 2.7")
- **Enclosure** Aluminum
- **Mounting** Wallmount
- **Power Consumption** 35 W (Typical)
- **Power Requirements** Min. 48 W (9 ~ 36 V_{DC}) (e.g +24 V @ 2 A), ATX
- **Weight** 3 kg
- **OS Support** Windows XP Embedded, Windows 2000/XP/Vista, Linux

System Hardware

- **CPU** Core 2 Duo L7400 1.5 GHz
- **Memory** 1 GB DDR2 SDRAM
- **Indicators** LEDs for Power, IDE, Alarm for battery backup SRAM, LAN (Active, Status) and Serial (Tx, Rx)
- **Battery Backup SRAM** 512 KB
- **Keyboard/Mouse** 1 x PS/2
- **PC Card** 1 x PC Card slot, supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) card
  Supports +5 V, +3.3 V
- **PC/104 Slot** PCI-104 slot, supports +5 & 3.3V power
- **Storage** SSD: 1 x external type I/II CompactFlash® slot
  HDD: Build-in one 2.5" SATA/IDE HDD bracket
- **Display** DVI-I supports DVI and VGA for dual display
- **Audio** Mic in, Line in, Line out
- **SATA** 1 x internal, 1 x external SATA 1.0
- **Watchdog Timer** Programmable 256 levels timer interval, from 1 to 255 sec

I/O Interface

- **Serial Ports** 2 x RS-232, 2 x RS-232/422/485 with DB9 connectors
  Automatic RS-485 data flow control
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps
  RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 2 x 10/100/1000Base-T RJ45 ports (supports wake on LAN and built-in boot ROM in flash BIOS)
- **USB Ports** 2 x USB, EHCI, Rev. 2.0 compliant

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -20 ~ 60° C (-4 ~ 140° F) @ 5 ~ 85% RH.
- **Shock Protection** IEC 68 2-27
  CompactFlash: 50 G @ wall mount, half sine, 11 ms
  HDD: 20 G @ wall mount, half sine, 11 ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
  CompactFlash: 2 Grms @ 5 ~ 500 Hz,
  HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-2182-D12E** Core 2 Duo 1.5 GHz, 1 GB RAM Fanless Box PC

Accessories

- **UNO-PCM22-AE** 2 x PC/104 expansion kit for UNO-2100 series
- **UNO-FPM21-AE** UNO-2000 series VESA mount kit

UNO-3072L

Intel® Celeron® M Fanless Box PC with 2 x PCI Slots

UNO-3072L-C22BE UNO-3072L-C11BE

Features

- Onboard Celeron® M processor
- Two RS-232 & two RS-232/422/485 ports with RS-485 automatic flow control
- Two 10/100Base-T RJ-45 ports and four USB 2.0 ports
- Two PCI-bus expansion slots for versatile applications
- Industrial proven design; anti-shock up to 50 G, anti-vibration up to 2 G
- 4-ch isolated DI, 4-ch isolated DO with timer, counter and interrupt handling
- Supports dual power inputs
- Windows® 2000/XP and Embedded Linux support
- Windows XP (SP2) Embedded Ready Platforms with write protection (EWF)
- Onboard system & I/O LED indicators
- Supports Boot from LAN function
- Fanless design with no internal cabling

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 140 x 237 x 179 mm (5.5" x 9.3" x 7.0", for UNO-3072L-C11BE)
  153 x 237 x 179 mm (6" x 9.3" x 7.0", for UNO-3072L-C22BE)
- **Enclosure** Aluminum
- **Mounting (Option)** Wall/Panel/Stand
- **Power Consumption** 24 W (typical, no PCI cards)
- **Power Requirements** 9 ~ 36 V_{DC} (e.g. +24 V @ 2 A) (Max. 5A), AT (16 ~ 36 V_{DC} for 12 V PCI boards)
- **Weight (Net)** 4.2 kg/6 kg (UNO-3072L-C11BE/UNO-3072L-C22BE)
- **OS Support** Windows XP embedded, Windows 2000/XP, WinCE 6.0, Linux

System Hardware

- **CPU** Celeron M 1.0/1.5 GHz
- **Memory** 512 MB/1 GB DDR SDRAM
- **Expansion Slots** 2 x PCI V 2.2
  (Note: The heat dissipation in the PCI cards may affect thermal performance)
- **Indicators** LEDs for power, power input 1, power input 2, power fault, IDE, diagnosis, Programmable buzzer
- **Keyboard/Mouse** 1 x PS/2
- **PCI Slot Power** 12 V @ 2.5 A, -12 V @ 0.8 A, +5 V @ 4 A, +3.3 V @ 3 A
- **Storage**
  SSD 1 x internal type I/II CompactFlash® slot
  HDD Built-in one 2.5" SATA/IDE HDD Bracket
- **Display** DB15 VGA connector, support to CRT mode: 1600 x 1200 @ 85 Hz
- **Watchdog Timer** Programmable 256 levels timer interval, from 1 to 255 sec

I/O Interface

- **Clock** Battery-backup RTC for time and date
- **LAN** 2 x 10/100Base-T RJ-45 ports (Built-in boot ROM in flash BIOS)
- **Serial Ports** 2 x RS-232, 2 x RS-232/422/485 with DB9 connectors
  Automatic RS-485 data flow control
- **Serial Port Speed** RS-232: 50 bps ~ 115.2 kbps
  RS-422/485: 50 bps ~ 921.6 kbps (Max.)
- **USB Ports** 4 x USB, USB EHCI, Rev. 2.0 compliant
- **Digital Inputs (4-ch. wet contact DI0 ~ DI3)**
  - 2,000 V_{DC} isolation
  - 50 ~ 70 V_{DC} over-voltage protection
  - ±50 V_{DC} input range and 10 kHz speed
  - Interrupt handling speed: 10 kHz
- **Digital Outputs (4 ch. DO0 ~ DO3)**
  - 2,000 V_{DC} isolation and 200 mA max/channel sink current
  - Keep output status after system hot reset
  - 0 ~ 40 V_{DC} output range and 10 kHz speed
- **Counters/Timers (2 x 16-bit)**
  - Counter source: DI1 & DI3, Pulse output: DO2 & DO3
  - Can be cascaded as one 32-bit counter/timer
  - Down counting, preset counting value
  - Timer time base: 100 kHz, 10 kHz, 1 kHz, 100 Hz

Environment

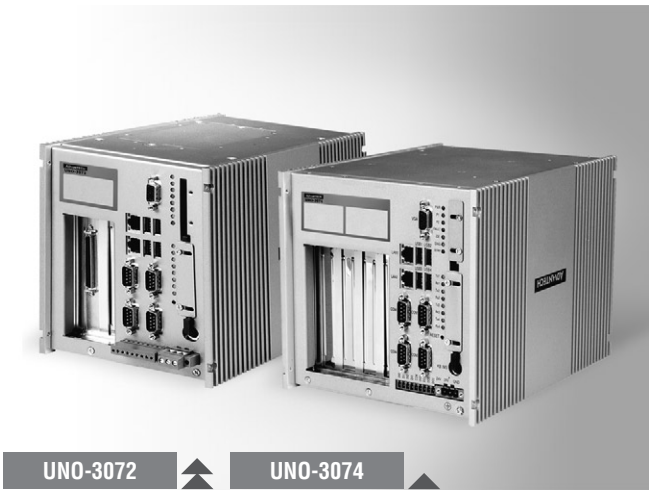
- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature (with CF card)** UNO-3072L-C22BE: -20 ~ 55° C (-4 ~ 131° F)
  UNO-3072L-C11BE: -20 ~ 60° C (-4 ~ 140° F)
- **Shock Protection** IEC 68 2-27
  CompactFlash: 50 G @ wall mount, half sine, 11 ms
  HDD: 20 G @ wall mount, half sine, 11ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
  CompactFlash: 2 Grms @ 5 ~ 500 Hz
  HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-3072L-C11BE** Celeron M 1.0 GHz, 512 MB RAM Fanless Box PC
- **UNO-3072L-C22BE** Celeron M 1.5 GHz, 1 GB RAM Fanless Box PC

UNO-3072/3074

Intel® Pentium® M Fanless Box PC with 2/4 x PCI, PC Card



UNO-3072 UNO-3074

Features

- Onboard Pentium® M processor
- Onboard 512 KB battery-backup SRAM
- Two RS-232 & two RS-232/422/485 ports with RS-485 automatic flow control
- Two 10/100Base-T RJ-45 ports and four USB 2.0 ports
- Two/ Four PCI-bus expansion slots for versatile applications
- Industrial proven design; anti-shock up to 50 G, anti-vibration up to 2 G
- 4-ch isolated DI, 4-ch isolated DO with timer, counter and interrupt handling
- Supports dual power inputs
- Windows® 2000/XP and Embedded Linux support
- Windows XP (SP2) Embedded ready platforms with write protection (EWF)
- Onboard system & I/O LED indicators
- Supports Boot from LAN function
- Fanless design with no internal cabling

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 140 x 237 x 179 mm (5.5" x 9.3" x 7.0" for UNO-3072)
  193 x 237 x 179 mm (7.6" x 9.3" x 7.0" for UNO-3074)
- **Enclosure** Aluminum
- **Mounting (Option)** Wall/Panel/Stand
- **Power Consumption** 24 W (typical, no PCI cards)
- **Power Requirements** 9 ~ 36 V_{DC} (e.g. +24 V @ 2 A) (Max. 5A),
  AT. (16 ~ 36 V_{DC} for 12 V PCI boards)
- **Weight (Net)** 4.4 kg for UNO-3072-P11E
  7.0 kg for UNO-3074-P32E
- **OS Support** Windows XP embedded, Windows 2000/XP, WinCE 5.0, Linux

System Hardware

- **CPU** Pentium M 1.4/1.8 GHz
- **Memory** 1 GB DDR SDRAM
- **Battery Backup SRAM** 512 KB
- **Expansion Slots** 2/4 x PCI V 2.2
  (Note: The heat dissipation in the PCI cards may affect thermal performance)
- **Indicators** LEDs for power, power input 1, power input 2, power fault, IDE, diagnosis, 4 COM ports Tx/Rx, and Alarm for battery backup.
  Programmable buzzer.
- **Keyboard/Mouse** 1 x PS/2
- **PC Card** 1 x PC card slot, supports CardBus (Card-32), and 16-bit (PCMCIA 2.1/JEIDA4.2) card supports +5 V, +3.3 V and +12 V @ 120 mA working power
- **PCI Slot Power** 12 V @ 2.5 A, -12 V @ 0.8 A, +5 V @ 4 A, +3.3 V @ 3 A
- **Storage**
  SSD 1 x internal type I/II CompactFlash® slot
  1 x external type I/II CompactFlash slot
  HDD Built-in 2.5" SATA/IDE HDD bracket
- **Display** DB15 VGA connector, 1600 x 1200 @ 85 Hz
- **Watchdog Timer** Programmable 256 levels timer interval, from 1 to 255 sec

Communications

- **Clock** Battery-backup RTC for time and date
- **LAN** 2 x 10/100Base-T RJ-45 ports (Built-in boot ROM in flash BIOS)
- **Serial Ports** 2 x RS-232, 2 x RS-232/422/485 with DB9 connectors
  Automatic RS-485 data flow control
- **Serial Port Speed** RS-232: 50 bps ~ 115.2 kbps
  RS-422/485: 50 bps ~ 921.6 kbps (Max.)
- **USB Ports** 4 x USB, USB EHCI, Rev. 2.0 compliant
- **Digital Inputs (4-ch. wet contact DI0 ~ DI3)**
  - 2,000 V_{DC} isolation
  - 50 ~ 70 V_{DC} over-voltage protection
  - ±50 V_{DC} input range and 10 kHz speed
  - Interrupt handling speed: 10 kHz
- **Digital Outputs (4 ch. DO0 ~ DO3)**
  - 2,000 V_{DC} isolation and 200 mA max/channel sink current
  - Keep output status after system hot reset
  - 0 ~ 40 V_{DC} output range and 10 kHz speed
- **Counters/Timers (2 x 16-bit)**
  - Counter source: DI1 & DI3, Pulse output: DO2 & DO3
  - Can be cascaded as one 32-bit counter/timer
  - Down counting, preset counting value
  - Timer time base: 100 kHz, 10 kHz, 1 kHz, 100 Hz

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature (with CF card)** -20 ~ 55° C (-4 ~ 131° F) @ 5 ~ 85% RH
- **Shock Protection** IEC 68 2-27
  CompactFlash: 50 G @ wall mount, half sine, 11 ms
  HDD: 20 G @ wall mount, half sine, 11ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
  CompactFlash: 2 Grms @ 5 ~ 500 Hz
  HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-3072-P12BE** Pentium M 1.4 GHz, 1 GB RAM Fanless Box PC
- **UNO-3074-P32BE** Pentium M 1.8 GHz, 1 GB RAM Fanless Box PC

UNO-3282/3272

Intel® Core™ 2 Duo/Celeron® M Fanless Box PC with PCI/PCIe, 2 x GbE, 4 x COM, DVI

NEW

Features

- Onboard Core 2 Duo 1.5 GHZ/Celeron M 1.86 GHz processor
- Onboard 512 KB Battery-backup SRAM
- 2 x RS-232 and 2 x RS-232/422/485 ports with automatic flow control
- 2 x 10/100/1000Base-T Ethernet ports
- One PCIe x 1 plus One PCI or Two PCI expansion slot for versatile applications
- Supports line-in and line-out with audio interface
- Both DVI-D and VGA displays to support dual display output
- Windows® XP Embedded ready solution
- Onboard system & I/O LED indicators
- Supports Wake on LAN and Boot from LAN function
- Fanless design with no internal cabling

Introduction

Advantech's UNO-3200 series is high-performance Core 2 Duo Fanless Box PC with two PCI expansion or PCIe x 1 plus PCI slots. UNO-3200 features a rugged design with Gigabit LAN and battery backup SRAM. Different from general industrial PCs, UNO-3200 series is more compact and reliable with a fanless, cableless and diskless design. They are open platforms which can fulfill any demanding requirement from the industrial field, and it is an ideal solution for industrial automation and control. UNO-3200 series provide embedded operating system with a pre-configured image that has optimized onboard device drivers, and supports Windows XP Embedded to fulfill the toughest requirements for complete functionality and high reliability.

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 200 x 240 x 130 mm (7.9" x 9.4" x 5")
- **Enclosure** Alumium
- **Mounting** Wall/Desktop
- **Power Consumption** 100 W
- **Power Requirements** 9 ~ 36 V_{DC} (e.g +24 V @ 5 A), ATX
- **Weight** 5.5 kg
- **OS Support** Windows XP Embedded, Windows 2000/XP/ Vista, Linux

System Hardware

- **CPU** Intel Core 2 Duo L7400 1.5 GHz, Celeron M 440 1.86 GHz
- **Memory** 1GB DDR2 SDRAM
- **Battery Backup SRAM** 512 KB
- **Indicators** LED for Power, Power Standby, HDD LED; 4 COM ports Tx/Rx, 2 LAN ports Tx/Rx, 4 user define LED and alarm for BatteryBackup
- **Keyboard/Mouse** 2 x PS/2 connector for Keyboard & Mouse
- **Audio** Line in, Line out
- **Expansion Slots** One PCIe x 1 + one PCI Replacable 2 x PCI V2.2 viser board included
  (Note: The heat dissipation in the PCI cards may affect thermal performance)
- **PCI/PCIe Slot Power** PCI: 12 V @ 2.5 A, -12 V @ 0.8 A, +5 V @ 4 A, +3.3 V @ 3 A
  PCIe: 12 V @ 2.5 A, +3.3 V @ 3 A
- **Storage**
  SSD: 1 x Internal type I/II CompactFlash® slot
  1 x External type I/II CompactFlash slot
  HDD: Two built-in 2.5" SATA/IDE HDD brackets
- **Display** Supports up to 1600 x 1200 @ 85 Hz
  VGA + DVI-D, support dual display
- **Watchdog Timer** Programmable 256 levels timer interval, from 1 to 255 sec

Communication

- **Clock** Battery-backup RTC for time and date
- **LAN** 2 x 10/100/1000Base-T RJ-45 ports (Intel 82573L chip, supports Wake On LAN function and built-in boot ROM in flash BIOS)
- **Serial Ports** 2 x RS-232, 2 x RS-232/422/485 with DB9 connectors, automatic RS-485 data flow control
- **Serial Port Speed** RS-232: 50bps ~ 115.2 kbps
  RS-422/485: 50bps ~ 921.6 kbps (Max)
- **USB** 5 x USB, USB EHCI, Rev. 2.0 compliant (1 is for USB dongle and USB flash inside chassis)

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature (With CF Card)** UNO-3282-D12E: -20 ~ 60° C (-4 ~ 140° F)
  UNO-3272-C32E: -20 ~ 50° C (-4 ~ 122° F)
- **Shock Protection** IEC 68 2-27
  CompactFlash: 50 G @ wall mount, half sine, 11 ms
  HDD: 20 G @ wall mount, half sine, 11 ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis)
  CompactFlash: 5 Grms @ 5 ~ 500 Hz
  HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-3282-D12E** Core 2 Duo 1.5 GHz, 1 GB RAM Fanless Box PC
- **UNO-3272-C32E** Celeron M 1.86 GHz, 1 GB RAM Fanless Box PC

UNO-4672

Intel® Pentium® M/Celeron® M Fanless Box PC with 6 x LAN, 10 x COM, 8 x DI, 8 x DO, PC/104+

NEW

Features

- Onboard Celeron M 1 GHz or Pentium M 1.4 GHz processor
- 2 x RS-232 and 8x RS-232/422/485 isolated serial ports with automatic flow control and 128KB FIFO
- 2 x 10/100/1000 Base-T (supports teaming function) and 4 x 10/100 Base-T
- Supports 2 x internal CF card and 1 x 2.5" SATA HDD
- PC/104+ extension and 4 x USB 2.0 (1 x internal)
- Rear wiring, rich system & I/O LED status indicators
- Windows® CE 6.0, Windows XP Embedded SP2, and Linux ready solution
- Fanless design with no internal cabling

Introduction

UNO-4672 has been designed to be compliant with IEC-61850-3, which has been defined as an international standard of communication network and system in power substations. Featuring a fanless design with built-in isolated PSU and ten isolated serial communication ports, UNO-4672 is even suitable for any harsh applications. The rear IO connection and LEDs on front panel for all ports and modes highly simplify monitoring for operation and maintenance.

Specifications

General

- **Certifications** IEC-61850-3, CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 2U (440 x 220 x 88) mm (17.3" x 8.6" x 3.4")
- **Enclosure** SECC
- **Mounting** Rack mount
- **Power Consumption** 45W (Typical)
- **Power Requirements** AC : 90 ~ 250 V_{AC} (47 ~ 400 Hz)
  DC : 106 ~ 250 V_{DC}
  With isolation protection, AT
- **Weight** 6.0 kg
- **OS Support** Windows® XP Embedded, Windows 2000/XP, Windows CE 6.0, Linux

System Hardware

- **CPU** Pentium M 1.4 GHz, Celeron M 1.0 GHz
- **Memory** 1 GB DDR DRAM
- **Indicators** LEDs for Power, IDE, Alarm for battery backup SRAM, Diagnosis (programmable), LAN (Active, Status) and Serial (Tx, Rx)
- **Storage**
  SSD 2x internal
  HDD Build-in one 2.5" SATA HDD bracket
- **Display** DB15 VGA connector, 1600 x 1200 @ 85 Hz
- **PC/104 Slot** PC/104+ supports +3.3 V & +5 V power
- **Watchdog Timer** Programmable 256 levels timer interval, from 1 to 255 sec
- **Battery Backup SRAM** 512 KB

I/O Interface

- **Serial Ports** 2 x DB-9 RS-232 & 8 x screw terminals with 5-wired RS-232/422/485
  Automatic RS-485 data flow control
  2000 V_{DC} surge protection & 2000 V_{DC} isolation
- **Serial Port Speed** (COM1, COM2) RS-232: 50 ~ 115.2 kbps,
  (COM3 ~ COM10) RS-232: 50 ~ 230.4 kbps
  RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 2 x 10/100/1000Base-T RJ-45 ports
  4 x 10/100Base-T RJ-45 ports
- **USB Ports** 4 x USB, UHCI, Rev. 2.0 compliant
  1 x Front, 2 x Rear and 1 x Internal ports
- **Digital Inputs** 8-ch wet contact
  Logic 0: 0 ~ 3 V_{DC}; Logic 1: 10 ~ 50 V_{DC}
  2,000 V_{DC} isolation, 2,000 V_{DC} ESD protection and 70 V_{DC} over-voltage protection
  Interrupt handling: IRQ 7
  photo couple response: 100 µs
- **Digital Outputs** 8-ch DO
  2,000 V_{DC} isolation and 200 mA max/channel sink current
  Keep output status after system hot reset
  5 ~ 40 V_{DC} output range and 10 kHz speed

Timer/Counter

- **Counter Source** DI1 & DI3
- **Pulse Output** DO2 & DO3
- **Can be cascaded as one 32-bit counter/timer**
- **Down counting, preset counting value**
- **Timer Time Base** 100 kHz, 10 kHz, 1 kHz, 100 Hz

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -20 ~ 55° C (-4 ~ 131° F) @ 5 ~ 85%
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Shock Protection** IEC 68 2-27 CompactFlash®: 50 G half sine, 11 ms
  HDD: 20 G half sine, 11 ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
  CompactFlash®: 2 Grms @ 5 ~ 500 Hz,
  HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-4672-C12E** Celeron M 1 GHz, 1 GB RAM Fanless Box PC
- **UNO-4672-P12E** Pentium M 1.4 GHz, 1 GB RAM Fanless Box PC

UNO-4678

Intel® Celeron® M Fanless Box PC with 3 x LAN, 8 x COM, PC/104

Features

- Onboard Celeron® M 1 GHz processor and 512 MB Memory
- Supports Lm sensor which can retrieve CPU and board temperature for monitoring purposes
- 8 x isolated RS-232/422/485 ports with automatic flow control
- 3 x 10/100Base-T RJ-45 ports
- Supports two USB and 1 x type I/II CF card
- Windows® CE 5.0 and Windows XP Embedded ready solution
- Windows 2000/XP driver ready and Linux driver support
- Windows XP Embedded (SP2) ready platform with write protection (EWF)
- Onboard system & I/O LED indicators
- Fanless design with no internal cabling

Introduction

UNO-4678 is high-performance Fanless Box PC, which supports a Celeron M 1 GHz CPU, and equipped with eight isolated serial communication ports. They inherit the glory from the UNO family and includes the typical characteristics as it is fanless, robust, and reliable. Furthermore, in order to meet the diverse applications in industrial automation and control, varied interfaces and 1U form factor are suitable for use, especially for rack mounting. Also, LEDs for all ports and modes on the front panel simplify the monitoring status for operation, administration and maintenance. UNO-4678 is convenient and user-friendly platforms to fulfill a wide range of requirements.

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 1U (440 x 220 x 44 mm/17.3" x 8.6" x 1.7")
- **Enclosure** SECC
- **Mounting** Rack mount
- **Power Consumption** 24 W (Typical)
- **Power Requirements** Min. 48 W (9 ~ 36 V_{DC}) (e.g +24 V @ 2 A), AT
- **Weight** 3.6 kg
- **OS Support** Windows XP Embedded, Windows 2000/XP, Windows CE 5.0, Linux

System Hardware

- **CPU** Celeron M 1.0 GHz
- **Memory** 512 MB DDR SDRAM
- **Indicators** LEDs for Power, Power Input 1 & 2, Power fault, IDE, LAN (Active, Status) and Serial (Tx, Rx)
- **Keyboard/Mouse** 1 x PS/2
- **Storage**
  - SSD: 1 x internal type I/II CompactFlash® slot
  - HDD: Built-in 2.5" SATA/IDE HDD bracket
- **Display** DB15 VGA connector 1600 x 1200 @ 85 Hz

I/O Interface

- **Serial Ports** 8 x RS-232/422/485 ports include:
  - 2 x DB-9 connectors with 9-wired RS-232
  - 6 x screw terminals with 5-wired RS-232
  - Automatic RS-485 data flow control
  - 2000 V_{DC} surge protection & 2000 V_{DC} isolation
- **Serial Port Speed** RS-232: 50 ~ 230.4 kbps
  RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 3 x 10/100Base-T RJ-45 ports
- **USB Ports** 2 x USB, USB EHCI, Rev. 2.0 compliant

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -10 ~ 50° C (14 ~ 122° F)
- **Shock Protection** IEC 68 2-27
  CompactFlash®: 50 G @ wall mount, half sine, 11 ms
  HDD: 20 G @ wall mount, half sine, 11 ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
  CompactFlash®: 2 Grms @ 5 ~ 500 Hz,
  HDD: 0.5 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-4678-C11BE** Celeron M 1 GHz, 512 MB RAM Fanless Box PC

Accessories

HDD Expansion Kit

UNO-2000 HDD Expansion Kit

- Dimensions: 188.8 x 106.5 x 21.0 mm (W x D x H) (Only extension kit)

Supported Models

- UNO-2050E, UNO-2052E, UNO-2053E, UNO-2059E

Packing List

- Extend chassis, 1 piece 12 cm IDE cable, post for assembly 2.5" HDD

Ordering Information

- **UNO-HD20-AE** UNO-2000 series HDD expansion kit

DIN-rail Expansion Kit

UNO-2100 Series DIN-rail Kit

- Supports DIN-rail mounting (EN50022, 35 mm X 7.5 mm)

Supported Model List

- UNO model All UNO-2100 series

Ordering Information

- **UNO-DIN21-AE** UNO-2100 series DIN-rail Kit

UNO-3000 Mounting Kit

Panel Mounting Kit

Supported Models

- UNO-3072L, UNO-3072, UNO-3074

Ordering Information

- **UNO-PM70-AE**
  Panel mounting kit for UNO-3000 series

Stand Mounting Kit

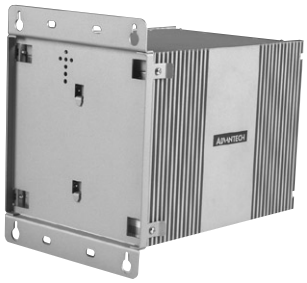
Supported Models

- UNO-3072L, UNO-3072, UNO-3074

Ordering Information

- **UNO-SM70-AE**
  Stand mounting kit for UNO-3000 series

Wallmounting Kit for UNO-3074 Series



Supported Models

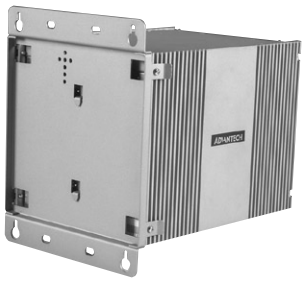
- **UNO-3074-P11E**

Ordering Information

- **UNO-WM74-AE**
  Wallmounting kit for UNO-3074-P11E

Note: For UNO-3074-P32E wall mount requirement, please use UNO-PM70-AE mounted on the back as a wallmount kit

Wallmounting Kit for UNO-3072 Series



Supported Models

- UNO-3072L, UNO-3072

Ordering Information

- **UNO-WM72-AE**
  Wallmounting kit for UNO-3072L-C11E/UNO-3072-P11E

VESA Mounting Kit

UNO-2000 Series VESA Mounting Kit

UNO-FPM21 could provide excellent integration of UNO and FPM models which could help installation easier and save more space in filed.

Features

- Dimensions: 271 x 163 x 12 mm (W x H x D) (Only extension kit)
- Supports VESA 75 and 100 monitor

Supported Models

- **UNO** All UNO-2000 series and UNO-2100 series
- **FPM** All FPM 12", 15", 17", 19" models

Ordering Information

- **UNO-FPM21-AE** UNO-2000 series VESA mount kit

UNO-1100 Series VESA Mounting Kit

Features

- Dimensions: 271 x 163 x 12 mm (W x H x D) (Only extension kit)
- Supports VESA 75 and 100 monitor

Supported Models

- **UNO** All UNO-1100 series
- **FPM** All FPM 12", 15", 17", 19" models

Ordering Information

- **UNO-FPM11-AE** UNO-1100 series VESA mount kit

UNO Series PC/104 Expansion Kit

UNO-2100 Series PC/104 Expansion Kit

- Dimensions: 228 x 32 x 152 mm (W x H x D) (Only extension kit)
- Supports two PC/104 modules

Supported Model List

- **UNO-2170**
  This kit includes one solid panel, one "2 x DB-9" panel and one "4 x DB-9" panel

Ordering Information

- **UNO-PCM21-AE** 2 x PC/104 expansion kit for UNO-2170

- Dimensions: 228 x 32 x 152 mm (W x H x D) (Only extension kit)
- Supports two PC/104 modules

Supported Model List

- **UNO-2171, UNO-2172, UNO-2176, UNO-2182**
  This kit includes one solid panel, one "2 x DB-9" panel and one "4 x DB-9" panel

Ordering Information

- **UNO-PCM22-AE** 2 x PC/104 expansion kit for UNO-2100 series

UNO Series Power Adapter

Features:

- Input voltage: 90 ~ 264 V_{AC}, 47 ~ 63 Hz
- Output Voltage: 24 V_{DC}
- Operating Temperature: -20 ~ 70° C

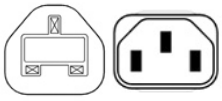
Note: Need to order power cord separately

Ordering Information

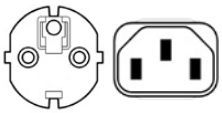
- **1757002321** 63W AC to DC UNO series power adapter

UNO Series Power Cord Options

1702002600
Power Cable US Plug 1.8 M



1702031801
Power Cable UK Plug 1.8 M



1702002605
Power Cable EU Plug 1.8 M

1702031836
Power Cable China/Australia Plug 1.8 M